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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,358	05/31/2006	Isabelle Fallais	2006_0678A	8969
513 7590 10/23/2007 WENDEROTH, LIND & PONACK, L.L.P. 2033 K STREET N. W. SUITE 800 WASHINGTON, DC 20006-1021			EXAMINER FLETCHER III, WILLIAM P	
			ART UNIT 1792	PAPER NUMBER
			MAIL DATE 10/23/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/578,358

Applicant(s)

FALLAIS ET AL.

Examiner

William P. Fletcher III

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-21 and 23-26 is/are rejected.
- 7) ☒ Claim(s) 22 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. The after-final amendment filed October 11, 2007, has been entered.
2. Claims 16-27 remain pending.
3. The indicated allowability of these claims, set forth in the Office action mailed July 11, 2007, is withdrawn in view of the newly discovered prior art discussed below. Prosecution is hereby re-opened.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. **Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

A. It is unclear whether the "(meth)acrylated oligomer," referred to in this claim, is the same or different from that recited in claim 16. Similarly, it is unclear whether the "(meth)acrylated polyepoxide, referred to in this claim, is meant to indicate that at least one of the "one or more polyepoxides," recited in claim 16, are (meth)acrylated or whether this limitation is referring to another (meth)acrylated polyepoxide.

B. In amending this claim, Applicant is encouraged to delete the extra, empty bullet point at the end of this claim.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. **Claims 16, 19-21, and 23-26, are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham (US 4,002,599 A) in view of Gardner (US 4,808,652 A) and Maddox et al. (US 2002/0132059 A1).**

A. Claims 16, 19, and 20:

i. Graham teaches a process for the application and curing of a two-part, epoxy resin system to a metal substrate [Examples]. The resin system comprises a polyepoxide, a carboxyl-functional polybutadiene, and a carboxylic acid [2:67-4:35].

ii. Graham does not explicitly teach that the carboxylic acid is an  $\alpha,\beta$ -unsaturated carboxylic acid or, with specific respect to claim 20, that the acid is acrylic or methacrylic acid. Nevertheless, it is the Examiner's position that these acids are well known and widely available examples of carboxylic acids and would have been readily obvious to one of ordinary skill in the art as expedients for the inclusion as the carboxylic acid of Graham.

iii. While Graham does not explicitly state the claimed relationship between x and z, it is the Examiner's position that the claimed relationship is implied and/or obvious from the text of Graham. Graham teaches that the polybutadiene is added so as to modify the properties of the composition [4:22-27]. Such a teaching implies that the polybutadiene is not the primary constituent of the composition and, as such, suggests a relationship of  $z > x$ . Overall, it is the Examiner's position that the relative concentrations of these components are result-effective variables. The polybutadiene is added in an amount to achieve the desired modified properties [4:22-27] and the carboxylic acid is added in an amount to achieve the desired additive effect [4:27-35]. No constituent should be added in an amount that adversely effects the properties of the coating or is wasteful. Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is

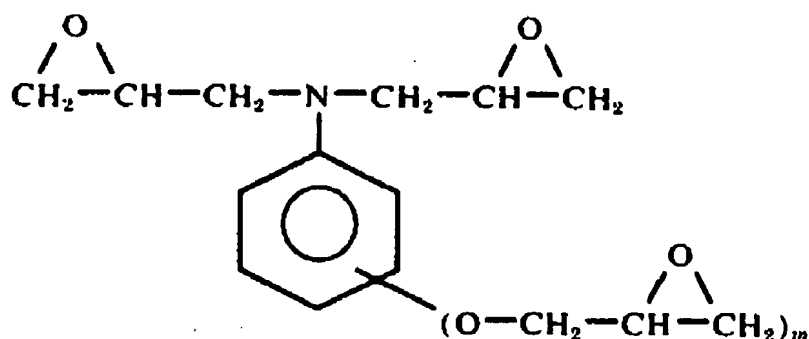
critical. Since the specification discusses the claimed relative concentrations as operable, it does not establish the criticality of the claimed relative concentrations. As such, it would have been obvious to one of ordinary skill in the art to optimize these result-effective variables by routine experimentation, absent evidence of the criticality of the claimed relationship. Such optimization includes the relationship recited in claim 19. See MPEP 2144.05.

iv. Graham does not teach that the metal substrate is a metal coil or the specifically claimed coil coating steps of decoiling the uncoated metal sheet and recoiling the coated metal sheet. Gardner is cited herein as evidence that two-part, epoxy- and amino-containing coating compositions are suitable for application to metal coil substrates [Gardner, 1:10-28]. As such, it would have been obvious to one in the art to modify the process of Graham so as to utilize, as the metal substrate, a metal coil substrate. One would have been motivated by the desire and expectation of applying, to the metal coil substrate, a flexible coating having high temperature resistance, solvent resistance, and chemical resistance [Graham, 2:50-66]. One would have had a reasonable expectation of successfully applying the two-part, epoxy- and amino-containing coating of Graham to a metal coil substrate based on the teaching of Gardner above. Finally, as noted in the prior Office actions, Maddox teaches the specific coil-coating steps of decoiling, coating, curing, and recoiling. As such, it

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would have been further obvious to one of ordinary skill in the art to utilize these specific, known coil coating process steps for the application of the coating of Graham to the metal coil substrate.

B. Claim 21: The polyepoxide disclosed by Graham includes a diglycidyl ether of an aromatic diol (i.e.,  $m = 2$ ):



C. Claim 23: In the process of Graham, the ingredients are added at the same time prior to application.

D. Claims 24 and 25: It common and conventional to add diluents to coating compositions to control the viscosity thereof and it would have been particularly obvious to utilize such known non-reactive diluents as disclosed in these claims so as to avoid unwanted reaction with the other coating composition constituents.

E. Claim 26: Graham teaches that the composition may contain additional polyepoxides [4:36-54]. It is the Examiner's position that (meth)acrylated polyepoxides would have been expedients readily apparent to one skilled in the art.

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9. **Claims 17 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Graham, Gardner, and Maddox, as applied to claim 16 above, and further in view of Klingier (EP 0 261 890 A2).**

A. Graham places no limitation on how the carboxyl-functional polybutadiene is manufactured/provided. As such, one of ordinary skill would have looked to the prior art for suitable examples.

B. As noted in the prior Office actions Klingier teaches a process for the production of a carboxyl-functional polybutadiene as claimed.

C. As such, it would have been obvious to one of ordinary skill in the art to modify the process of Graham, Gardner, and Maddox, so as to provide the carboxyl-functional polybutadiene according to the process of Klingier. One of ordinary skill in the art would have been motivated by the desire and expectation of successfully providing the carboxyl-functional polybutadiene.

***Allowable Subject Matter***

10. Claims 22 and 27, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

A. With respect to claim 22, Graham is limited to the amine-containing polyepoxide illustrated above and neither teaches nor suggests the polyepoxides recited in these claims.



B. With respect to claim 27, Graham teaches thermal curing and neither teaches nor suggests systems curable by actinic radiation, as claimed.

***Conclusion***

12. The prompt development of clear issues in the prosecution history requires that applicant's reply to this Office action be fully responsive (MPEP § 714.02). When filing an amendment, applicant should specifically point out the support for any amendment made to the disclosure, including new or amended claims (MPEP §§ 714.02 & 2163). A fully responsive reply to this Office action, if it includes new or amended claims, must therefore include an explicit citation (i.e., page number and line number) of that/those portion(s) of the original disclosure which applicant contends support(s) the new or amended limitation(s).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William P. Fletcher III whose telephone number is (571) 272-1419. The examiner can normally be reached on Monday through Friday, 0900h-1700h.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**William Phillip Fletcher III**  
Primary Examiner

October 21, 2007